

MATERIALS & ENERGY RECOVERY DIVISION

Objectives

- Disseminate peer-reviewed information on the design of solid waste processing facilities and components.
- Foster research and development in this field.
- Cooperate in development of ASME Codes & Standards - QRO; PTC-34.
- Work with ASME Government Relations, industry, and NGOs to foster cooperation in matters of mutual concern.

Technical Focus

Design, Construction, and Operation of solid waste processing facilities:

- Waste Combustors (thermal conversion plants)
- Resource Recovery Facilities (recycling)
- Landfills
- Composting Facilities (for bio-degradables)

Delivery Mechanisms

Conferences - annual North American Waste-to-Energy Conference, a three-way partnership with Integrated Waste Services Association and Solid Waste Association of North America; average 400+ attendees

- Facility Tours
- Seminars - Training of operators for waste processing facilities
- Facilities Operator Committees - forums for open communication and sharing of best practices among the operators of Waste-to-Energy Plants and Solid Waste Processing Facilities
- Manuals - Waste Combustor Operator Handbook (under development)

Scholarships

(\$18,000 in Scholarship Awards!)

In an effort to stimulate the interest of students in solid waste management and related fields, and to support colleges and universities that offer curriculum or courses in solid waste management and related fields, the division offers a scholarship program with awards totaling \$18,000. The scholarship award amounts will be divided equally between the winning student and his or her school.

Honors & Awards

Sponsor three awards per year:

- MERD Distinguished Service Award - for outstanding contributions to Division over period of at least 10 years
- MERD Facility Recognition Award -for exemplary combustion facilities utilizing non-fossil fuels or for material recovery facilities
- MERD Medal of Achievement - for distinguished individual contribution to the industry.

MER Division Executive Committee



Waste To Energy White Paper Executive Summary

ASME MER Division Supports WTE - The Materials & Energy Recovery Division (MERD) of the American Society of Mechanical Engineers (ASME) supports national policies that encourage the recovery of energy from the controlled combustion of municipal solid waste (MSW), also called Waste to Energy (WTE).

Proven Technology - WTE is a proven, environmentally sound process that provides reliable electricity generation and sustainable disposal of post-recycling MSW. WTE technology is used extensively in Europe and other developed nations in Asia such as Russia, Japan, Singapore, and Taiwan.

WTE Reduces Greenhouse Gases - New policies to encourage WTE can have a sizable effect on reducing the nation's greenhouse gas emissions.(1) In fact, nationwide use of the WTE technology can become one of the big contributors to America's planned reduction in greenhouse gas emissions.

WTE Reduces Dependence on Fossil Fuel - New policies to encourage WTE can also have a meaningful impact in reducing dependence on fossil fuels and increasing production of renewable energy. MSW is currently comprised of 56% biogenic and 44% non-biogenic materials (2). Combusting the biogenic fraction of WTE is considered renewable by the DOE (1). Currently, there are 86 WTE facilities in the U.S. that process 29 million tons of MSW per year (1). The nation currently landfills about 248 million tons of waste per year so there is significant potential to increase energy production from WTE. Every ton of MSW processed in a WTE facility avoids the mining of one third ton of coal or the importation of one barrel of oil. If all waste were processed in modern WTE facilities it could satisfy 3 to 4 percent of the country's electricity demand.

Additional Environmental Benefits of WTE -

- Complements recycling and reduces landfilling
- Reduces truck traffic and associated emissions
- Recovers and recycles metals thus reducing mining operations

WTE Provides Clean Energy - WTE technology has significantly advanced with the implementation of the Clean Air Act (3), dramatically reducing all emissions. The EPA concluded WTE now produces electricity with less environmental impact than almost any other source (Letter of EPA Administration to Integrated Waste Services Association, Feb. 14, 2003).

Reliable Electricity - WTE operates 24/7 to reduce base load fossil fuel generation and is desirably located in proximity to urban areas where the power is needed the most.

ASME MER Division Recommendations to Congress and the Administration:

- Include WTE in the federal Renewable Portfolio Standard.
- Consider the reduction in greenhouse gases benefits of WTE in climate change policy.
- Direct the EPA to consider "life cycle analysis" of waste disposal options and also to consider Maximum Achievable Control Technology (MACT) type regulations on all emission sources, as have been applied to WTE facilities.

SWOT TABLE

(Strengths/Weaknesses/Opportunities/Threats)

Strengths

- Cohesive core of long-standing volunteers
- Industry focus
- Solid reputation and recognition of ASME in the industry
- Experienced staff support

Opportunities

- Lack of thorough engineering in composting facilities
- Application of WTE technology increasing in developing countries, particularly in Asia
- Growth in management of special solid wastes, such as medical and hazardous waste, as well as other waste streams besides solids (e.g., liquids, slurries, etc.)

Weaknesses

- Aging membership
- Time constraints of volunteers
- Difficulty recruiting new volunteers
- Current volunteer interests limited to certain areas (e.g. WTE)
- Revenues emanate from one major annual event

Threats

- Public perceptions of waste combustion is wrong: i.e. a burn barrel
- Uncertain social, economic and political environment
- Misinformed "Environmental" groups, that heighten public opposition to any WTE facilities
- Trade associations that offer competing products and services (conferences, publications, etc.)
- Landfilling remains more economical than recycling and WTE